

(21) (A1) **2,236,025**

(22) 1998/04/27

(43) 1999/04/28

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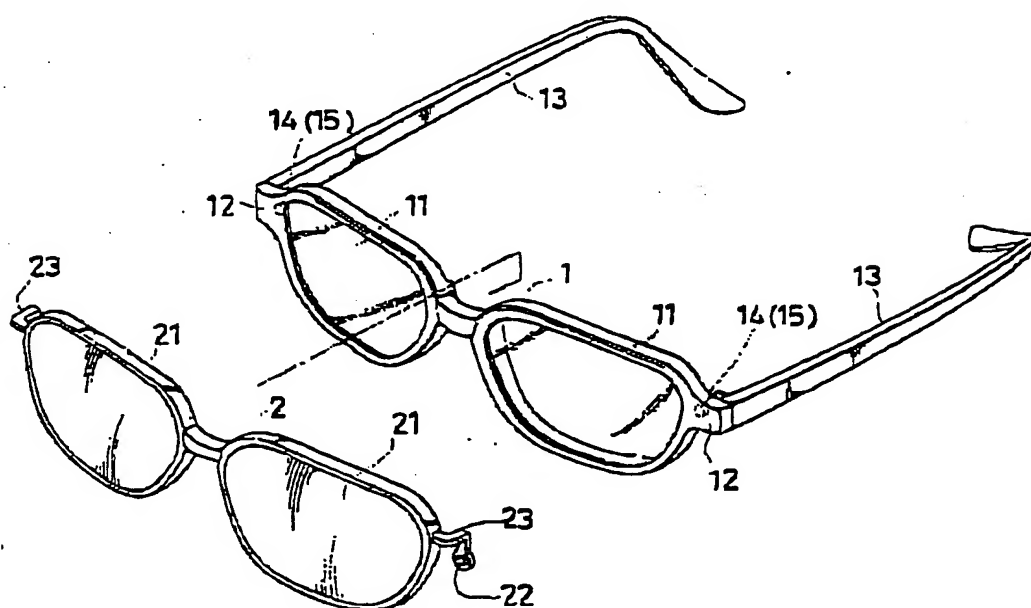
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(51) Int. Cl.⁶ G02C 9/00, G02C 7/08

(30) 1997/10/28 (08/959,486) US

(54) **COMBINAISON DE STRUCTURES DE MONTURE DE
LUNETTES PRIMAIRE AVEC UNE MONTURE DE
LUNETTES SECONDAIRE**

(54) **COMBINING STRUCTURE OF A PRIMARY SPECTACLE
FRAME WITH AN AUXILIARY SPECTACLE FRAME**



(57) A combining structure of a primary spectacle frame with an auxiliary spectacle frame includes a connecting portion respectively formed at two sides of the primary spectacle frame. Each connecting portion is pivotally connected with a temple and provided with a first magnetic member and a recess formed on the first magnetic member for a second magnetic member disposed protruding up a vertical portion of an extension formed respectively at two sides of an auxiliary spectacle frame to fit there-in. Further, between each extension and the auxiliary spectacle frame itself is formed a gap, in which each connecting portion of the primary spectacle frame fits. Each extension strides across on the connect portion like a hook.



COMBINING STRUCTURE OF A PRIMARY SPECTACLE FRAME WITH
AN AUXILIARY SPECTACLE FRAME

ABSTRACT OF THE DISCLOSURE

5 A combining structure of a primary spectacle frame
with an auxiliary spectacle frame includes a connecting
portion respectively formed at two sides of the primary
spectacle frame. Each connecting portion is pivotally
connected with a temple and provided with a first
magnetic member and a recess formed on the first
10 magnetic member for a second magnetic member disposed
protruding up a vertical portion of an extension formed
respectively at two sides of an auxiliary spectacle
frame to fit there-in. Further, between each extension
and the auxiliary spectacle frame itself is formed a
15 gap, in which each connecting portion of the primary
spectacle frame fits. Each extension strides across on
the connect portion like a hook.

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WHAT IS CLAIMED IS;

1. A combining structure of a primary spectacle frame with an auxiliary spectacle frame comprising a connecting portion respectively formed at two sides of a primary spectacle frame, said connecting portion 5 pivotally connects a temple and has a first magnetic member buried in an inner side of said connecting portion, said first magnetic member having its upper end lower than the inner side of said connecting portion to form a recess on it, said recess having a 10 diameter a little larger than that of said first magnetic member, said primary spectacle frame having an extension formed respectively at two sides, said extension having a vertical portion to form a gap 15 between said auxiliary spectacle frame for said primary spectacle frame to fit therein, said extension striding across on said connecting portion to form a hook against the primary spectacle frame, said second magnetic member positioned to protrude up an inner surface of said ver- 20 tical portion and fitting in said recess of each said connecting portion to permit said first and said second magnetic member attracting each other.

2. The combining structure of a primary spectacle frame with an auxiliary frame as claimed in Claim 1, 25 wherein said primary spectacle frame is made of plastic.

3. The combining structure of a primary spectacle frame with an auxiliary frame as claimed in Claim 1, wherein said primary spectacle frame is made of a metal.

COMBINING STRUCTURE OF A PRIMARY SPECTACLE FRAME WITH AN AUXILIARY SPECTACLE FRAME

BACKGROUND OF THE INVENTION

This invention relates to a combining structure of
5 a primary spectacle frame with an auxiliary spectacle
frame, particularly to one having two magnetic members
respectively disposed in a primary spectacle frame and
an auxiliary spectacle frame so that the two magnetic
members are positioned abutting and attracting each
10 other, with an extension respectively formed at two
sides of an auxiliary spectacle frame and extending
across on each connecting portion formed at two sides of
the primary spectacle frame like a hook so as to fix the
auxiliary spectacle frame with the primary spectacle
15 frame securely.

Common spectacles of myopia, hyperopia, and astig-
matism are not provided with an anti-sunlight lenses,
except color changing lenses, which become darker in
case of stronger light and less colored in case of
20 weaker light. But they gradually become tired owing to
a long period of use, unable to change as it used to,
becoming useless. And now most commonly seen are auxi-
liary spectacle frames with colored lenses attached with
common spectacles.

25 A typical spectacle frame having an attachable
one-piece slide-on rim is disclosed in U. S. Pat. No.
4,070,103 to Mooker. In Mooker, a spectacle frame in-

cludes a magnetic material secured to the peripheral portion thereof for facilitating attachment of the auxiliary lens rim cover to the spectacle frame. The lens rim cover also includes a magnetic strip for engaging with the magnetic material of the spectacle frame.

Another typical eyeglasses are disclosed in U. S. Pat. No. 5,416,537 to Sadler and comprise first magnetic members secured to the temporal portion of the frame and second magnetic member secured to the corresponding temporal portions of the auxiliary lenses.

But in wearing the two kinds of spectacles just referred, the wearer's head will push the temples outward, changing the curvature of the spectacle frame, with the sunlight spectacle frame receiving no force and keeping the original condition. Then the contact dimensions of the first magnetic member and the second magnetic member becomes smaller, causing the auxiliary frame to separate from the primary frame. In addition, since the first magnetic member is located at the same level with the frame, the second magnetic member will attract dirt from an upper surface of a table when the sunlight spectacle frame is taken off and placed on the table. Consequently, mutual attraction of the second and the first magnetic member may be weakened.

In both the eyeglasses, the auxiliary lenses are simply attached to the frames by magnetic materials and have no supporting members for preventing the auxiliary lenses from moving downward relative to the frames such that the auxiliary lenses may easily move downward rela-

tive to the frames and may be easily disengaged from the frames when the users conduct jogging or jumping exercises. In addition, the magnetic materials are embedded in the frames of the primary lenses and of the auxiliary
5 lenses such that the frames should be excavated with four or more cavities for engaging with the magnetic members and such that the strength of the frames is greatly decreased.

Auxiliary lenses for eyeglasses disclosed in U. S. Pat. No. 5,568,207 includes a first magnetic member at
10 a rear and a side portion of two side extensions of a primary spectacle frame, and an auxiliary spectacle frame includes two arms hung on the primary spectacle frame and each having a magnetic member for engaging
15 with the magnetic members of the primary spectacle frame so as to secure the spectacle frames together so as to prevent the auxiliary spectacle frame from moving downward relative to the primary spectacle frame. So even if a user might jog or jump, the arms would be hung and
20 supported on the upper portion of the primary spectacle frame so that the auxiliary spectacle frame might be stably supported secured to the primary spectacle frame and would not move downward relative to the primary spectacle frame nor easily disengaged from the primary
25 spectacle frame.

Though above-mentioned U.S. Pat. No. 4,070,103, No. 5,416,537, No. 5,568,207 all adopt magnetic members to engage with primary spectacle frames and auxiliary

spectacle frames, they all result in a number of disadvantages when they are worn. For instance, wearers use them improperly, or magnets lose the magnetism naturally. According to these reasons, the auxiliary
5 spectacle frames of U.S. Pat. No. 4,070,103 and No. 5,416,537 can not attach to the primary spectacle frame any longer; as to the auxiliary spectacle frame of U.S. Pat. No. 5,568,207, it still can be hung on the primary
10 spectacle frame by using arms hung at a rear and a side portion of two side extensions of the primary spectacle frame after the magnetism, but the arms are merely hung on the primary spectacle frame, they do not hook each other. So, it is obvious to know when the wearer is exercising, jogging and jumping or touches the auxiliary
15 spectacle frame carelessly, they may easily make the auxiliary spectacle frame fall down from the primary spectacle frame.

However, our structure has overcome the disadvantages of the above-referred U.S. Pat. No. 4,070,
20 103, No. 5,416,537 and No. 5,568,207. Namely, the feature of our structure has improved the disadvantages as above-mentioned and made the auxiliary spectacle frame firmly.

SUMMARY OF THE INVENTION

25 This invention has a purpose to offer a combining structure of a primary spectacle frame with an auxiliary spectacle frame, which will not disengage from the primary spectacle frame, even if the first and the second

magnetic members should lose magnetism, the former would not disengage from the latter in jogging and jumping exercise.

5 A main feature of the invention is a recess formed on the first magnetic members buried in a connecting portion at two sides of the primary spectacle frame for the second magnetic members provided on the auxiliary spectacle frame to fit in and attracting with each other.

10 BRIEF DESCRIPTION OF DRAWINGS

This invention will be better understood by referring to the accompanying drawings, wherein:

Figure 1 is an exploded perspective view of a combining structure of a primary spectacle frame with an auxiliary spectacle frame in the present invention;

Figure 2 is a cross-sectional view of the combining structure of a primary spectacle frame with an auxiliary spectacle frame in the present invention;

Figure 3 is a rear perspective view of this structure applied to a metal spectacle frame;

Figure 4 is a partial enlarged view of Fig. 3; and,

Figure 5 is a partial enlarged view of Fig. 3 combined together.

25 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

A preferred embodiment of a combining structure of a primary spectacle frame with an auxiliary spectacle

frame in the present invention, as shown in Figs. 1 - 5, includes a primary spectacle frame 1 for lenses 11, and an auxiliary spectacle frame 2 for anti-sunlight lenses 21.

5 The primary spectacle frame 1 is made of plastics as shown in Fig. 1, or of a metal shown in Fig. 3, having a connecting portion 12 respectively at two sides. The connecting portion 12 is pivotally connected with a temple 13 and having a first magnetic member 14. The auxiliary spectacle frame 2 has a second magnetic member 22.

15 A special feature of the present invention is that the first magnetic member 14 is disposed on an inner side of the connecting portion 12 of the primary spectacle frame 1, and an upper surface of the first magnetic member 14 is lower than an upper surface of the connecting portion 12, defining a recess 15 on the first magnetic member 14. Furthermore, the diameter of the recess 15 is a little larger than that of the first

20 Another special feature of the invention is that the auxiliary spectacle frame 2 has an extension 23 respectively at two sides and a vertical portion 231 extending down from the extension 23. Then a gap is formed between the vertical portion 231 and the body of the auxiliary spectacle frame 2 for the primary spectacle frame 1 to fit therein, with the extension 23 striding over an upper side of the connecting portion 12 of the first spectacle frame 1 like a hook. Also, a second magnetic member 22 is fitted in an inner surface

of the vertical portion 231 of the extension 23, protruding out to fit in the recess 15 by mutual attraction with the first magnetic member 14 so that the auxiliary spectacle frame 2 may be stabilized on the primary
5 spectacle frame 1.

As it can be understood from the aforesaid description, this combining structure of a primary spectacle frame with an auxiliary spectacle frame has the following advantages.

10 1. As the first magnetic member is hidden in the inner side of the vertical portion of the extension of primary spectacle frame, it doesn't affect the outer look of the whole spectacle.

2. Even if the curvature of the primary spectacle
15 frame changes due to a head movement of a wearer, the magnetic member is still strongly engaged in the recess in a limited scope that the auxiliary spectacle frame may be kept securely in place with primary spectacle frame.

20 3. The primary spectacle frame and the auxiliary spectacle frame are kept together by means of the first and the second magnetic member, and they are also kept in the L-shaped gap formed by the vertical portion of the extension of the auxiliary spectacle frame, with the
25 extension striding across on the connecting portion of the primary spectacle frame, so, in case the frames are used improperly by wearers or the lost magnetism of the magnetic members, our invention can still keep the auxiliary spectacle frame hooked on the primary

spectacle frame firmly.

4. As the second magnetic member is not disposed on the same level with the second spectacle frame, it cannot contact with an upper surface of a table when
5 the primary spectacle frame is taken down and placed thereon, with tiny dirt not sticking on it to worsen attracting force of the second magnetic members.

While the preferred embodiment of the invention has been described above, it will be recognized and un-
10 derstood that various modification may be made therein and the appended claims are intended to cover all such modifications which may fall within the spirit and scope of the invention.

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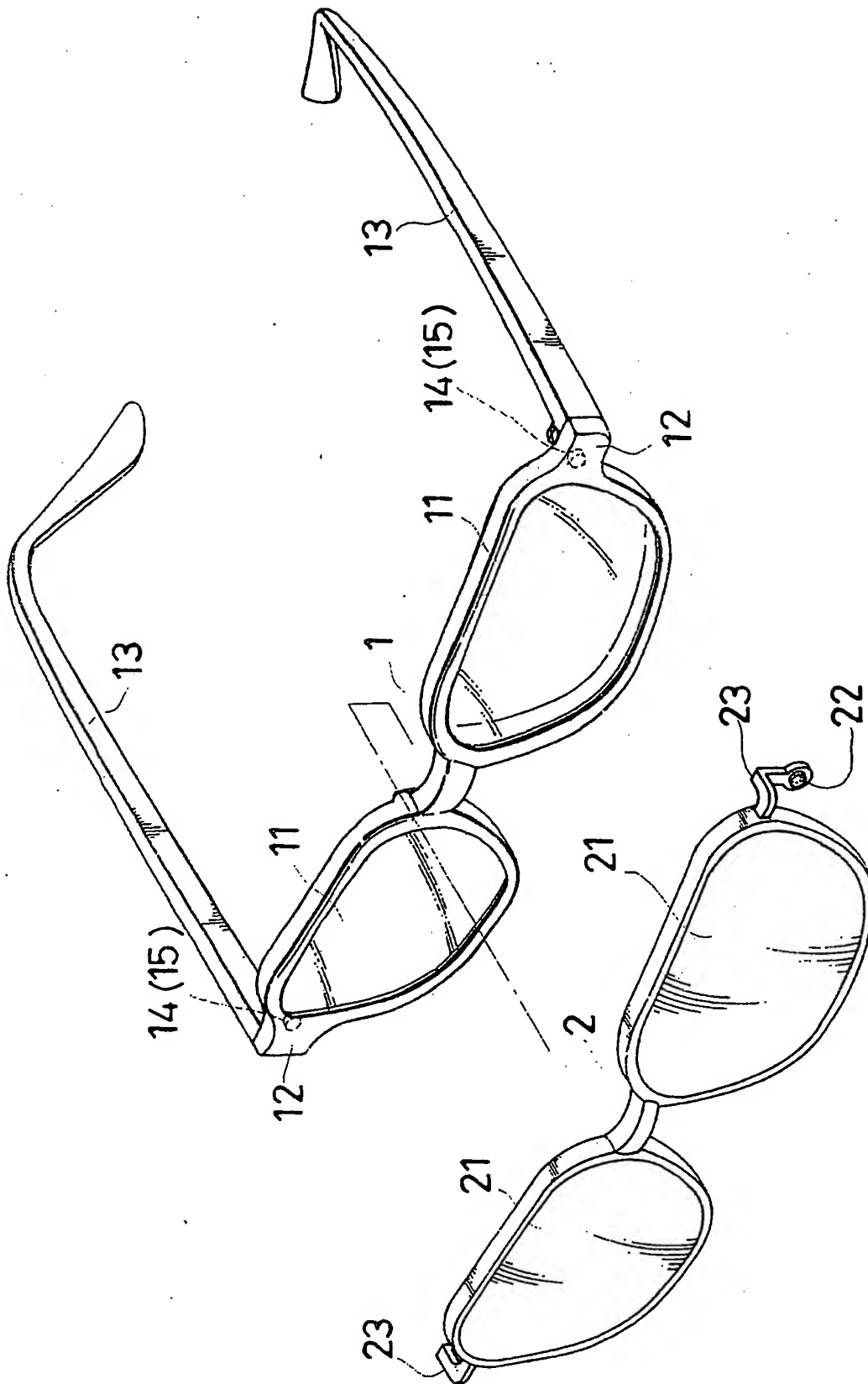


FIG. 1

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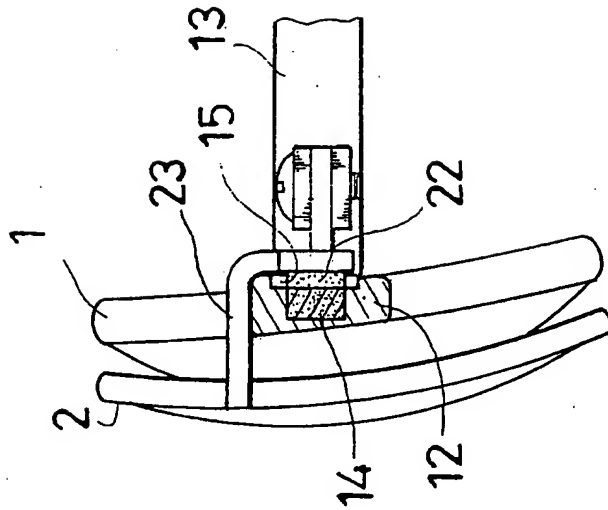


FIG. 2

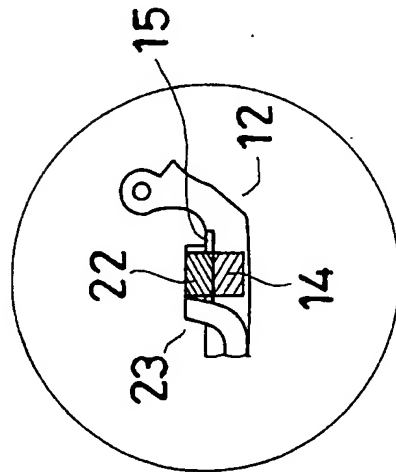


FIG. 5

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INVENTOR: KUO-SHENG KU
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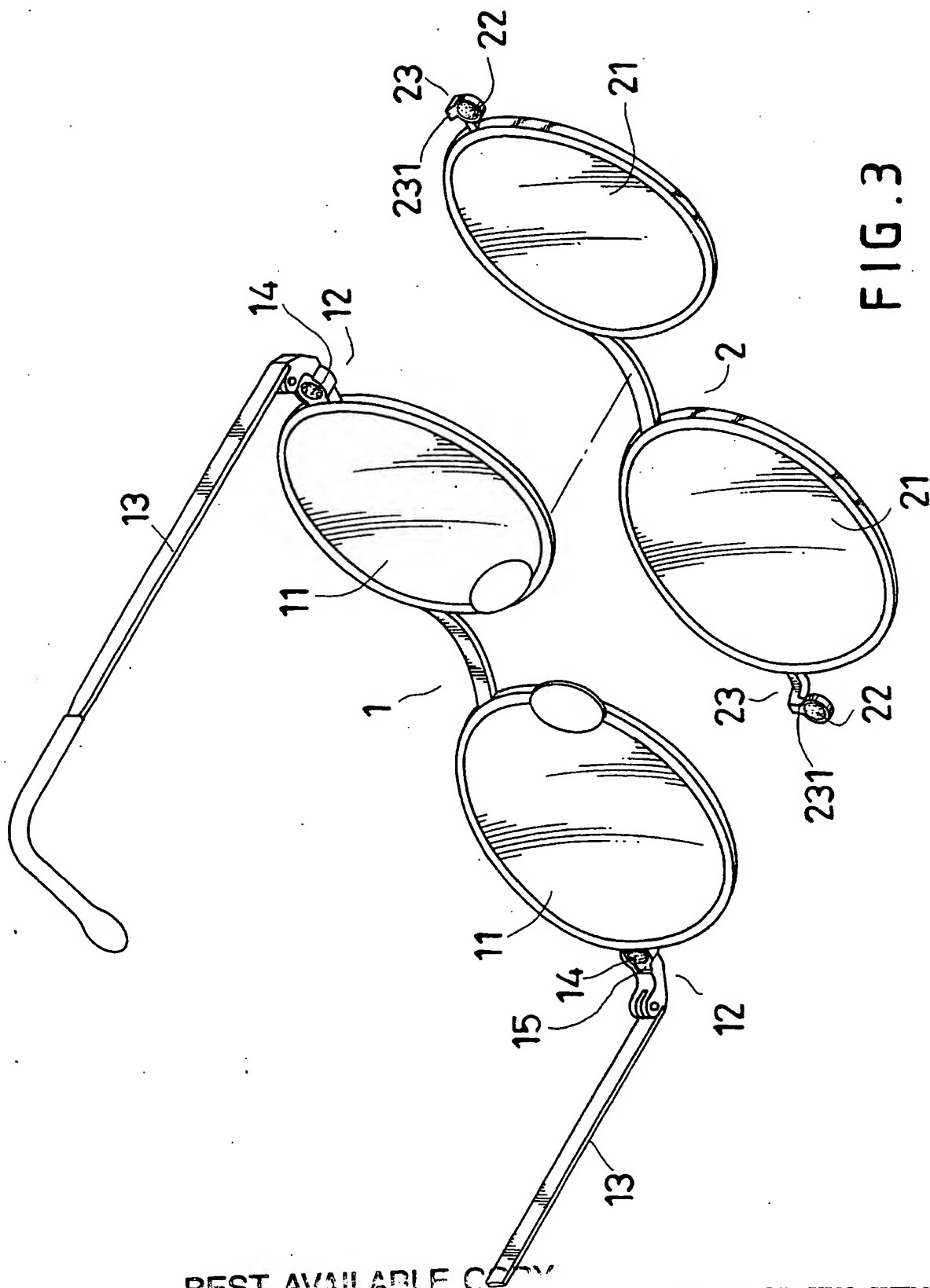


FIG. 3

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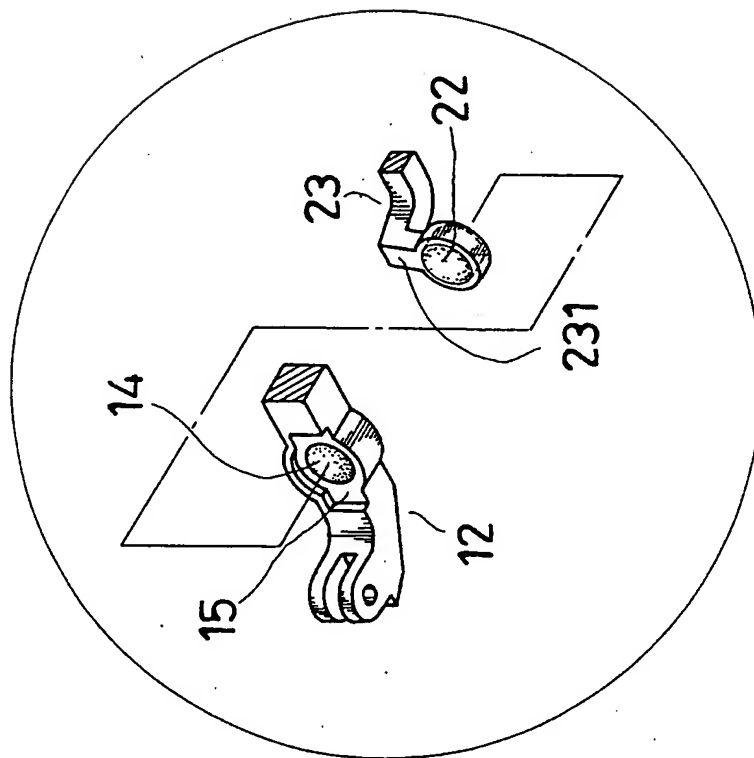


FIG. 4

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